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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,126	02/08/2002	Sung-Il Kim	2013P017	1466

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EXAMINER

MACCHIAROLO, PETER J

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 12/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/071,126		KIM ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Peter J Macchiarolo		2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                     | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                            | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>0402</u> . | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Priority***

1. Receipt of the claim for foreign priority is acknowledged.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on April 9, 2002 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Specification***

3. The disclosure is objected to because of the following informalities: page 1, line 28 recites an "amplifier 106." The reference number is interpreted to be a typographical error of "110". Appropriate correction is required.

### ***Drawings***

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the conductive epoxy as recited in claim 8 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Objections***

5. Claim 6 is objected to because of the following informalities: Claim 6, which depends from claim 2, recites, “the signal transmission line,” and “the second ground line.” There is not proper antecedent basis for these terms. The Examiner is interpreting these terms to be the same as recited in claim 3. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakaino et al (USPN 5,909,523; “Sakaino”).

7. In regards to claims 1, and 2 Sakaino discloses in figure 1, a submount (21) comprising a dielectric material having a polygonal shape with a front face and a bottom face (21a); and an interconnection line (2a) having a coplanar waveguide structure and comprising a plurality of interconnection lines which are spaced apart from each other, attached to the front face and the bottom face of the dielectric material, and electrically connected to the opto-electronic device (1) to output signals from the opto-electronic device.

8. In regards to claim 7, Sakaino discloses attaching an opto-electronic device (1) to an interconnection line (2b) to electrically connect the opto-electronic device to the interconnection

line, and (b) attaching the interconnection line, to which the opto-electronic device is attached, to a conductive interconnection line of a substrate<sup>1</sup>.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaino.
10. In regards to claims 3 and 4, Sakaino discloses all of the recited limitations of claim 2 (above).
11. Sakaino further discloses the interconnection lines are connected to a package (not shown)<sup>2</sup> and the opto-electronic device is attached to a portion of the electrode, which is attached to the front face of the dielectric material via the feeder wire (2c).
12. Although Sakaino is silent to the specifics of the electrical connectors, it is obvious to one skilled in the art that the package must have a first ground line, a signal transmission line, a second ground line, and a bias application line for proper operation of the opto-electronic device. Further, it would have been obvious to one of ordinary skill in the art to move these electrical connectors from the package to the submount, since this is a mere rearrangement of parts and a matter of design choice. *In re Japikse*, 86 USPQ 70.

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<sup>1</sup> Sakaino, col. 12, ll. 4-59.

<sup>2</sup> Sakaino, col. 9, ll. 22-26.

13. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the submount having the above interconnection lines, since this configuration is required for proper operation of the device and is a matter of design choice.

14. In regards to claim 5, Sakaino is silent to the specifics of the elector connectors on the package (above).

15. However, having the opto-electronic device, which is attached to a second ground line, being connected to a signal transmission line and a bias application line via wires is an obvious wiring configuration, since this configuration will allow the opto-electronic device to operate properly.

16. The reason for combining is the same as for claims 3 and 4.

17. In regards to claim 6, Sakaino is silent to the distance between a portion of the signal transmission line and a portion of the second ground line on the bottom face of the dielectric material is greater than the distance between a portion of the signal transmission line and a portion of the second ground line on the front face of the dielectric material.

18. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to manufacture the submount with the distance interrelation, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

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19. In regards to claim 8, Sakaino discloses all of the recited limitations of claim 7 (above).

20. Sakaino is silent to using conductive epoxy to attach the interconnection line to the conductive interconnection line of a substrate.

21. However, this is an obvious method of attaching a wire to an electrode, as evidenced by Sakaino<sup>3</sup>; “[electrically] bonding the photodiode 1 on the side surface of the block 22 with Au or An solder of a resin.”

22. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the submount with Sakaino’s packaging method, including using a conductive epoxy for attaching the electrical conductors, since this is an obvious method of attaching a wire to an electrode.

### *Conclusion*

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (703) 305-7198. The examiner can normally be reached on 7.30 - 4:30, M-F.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Sandra O’Shea can be reached on (703) 305-4939. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

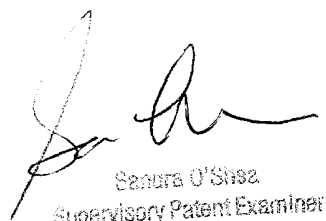
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<sup>3</sup> Sakaino, col. 12, ll. 21-23.

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26. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

pjm



Sandra O'Shea  
Supervisory Patent Examiner  
Technology Center 2800